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Abstract

**MODE OF OPERATION OF ATOMIC POWER STATION IN INTERCONNECTED SYSTEM
AND THE ECONOMIC EFFECTS**

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In atomic power stations according to the features of the reactor cooling two methods of the operation are possible. One of them, at present generally applied, when the parameters (pressure and temperature) of the thermal cycle in the function of electric rating are unchanged. With such a mode of operation the atomic power station is applicable as base load power station, or as a peak-load one. Thermodynamically justified is such a mode of operation when the parameters of the thermal cycle in the function of the rating are changed so that at peak load the parameters are lower and at part load they are higher. This mode of operation favourably uses the possibility that a reactor, lowering the temperature, is markedly overrateable. This way, the same power station generally can be operated with a good efficiency and at the time of peak demand, without heat storage, can be overrated. The paper deals with these two methods of operation, analyses the situation in an atomic power station, and the first costs of electric energy, taking into consideration the mutual influences of a new atomic power station, and the interconnected system. In the cost calculation the effects of the new power station on the rating and on the costs of the power stations of the interconnected system are considered. On the basis of economical investigation the two methods of operation are compared and conclusions are drawn, when the different methods of operation are economic. The investigation is extended to electric energy and heat-producing atomic power stations.